[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[Docket No. 50-134; NRC-2015-0090]

University of Michigan's Ford Nuclear Reactor Facility

AGENCY: Nuclear Regulatory Commission.

ACTION: License termination; issuance.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is noticing the termination of Facility Operating License No. R-28 for the Ford Nuclear Reactor (FNR). The NRC has terminated the license of the decommissioned FNR at the University of Michigan (UM or the licensee) in Ann Arbor, Michigan, and has released the site for unrestricted use.

DATES: Notice of termination of Facility Operating License No. R-28 given on **[INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Please refer to Docket ID **NRC-2015-0090** when contacting the NRC about the availability of information regarding this document. You may obtain publicly-available information related to this document using any of the following methods:

- **Federal Rulemaking Web Site:** Go to http://www.regulations.gov and search for Docket ID **NRC-2015-0090**. Address questions about NRC dockets to Carol Gallagher;

telephone: 301-415-3463; e-mail: Carol.Gallagher@nrc.gov. For technical questions, contact the individual listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):**

You may obtain publicly-available documents online in the ADAMS Public Documents collection at http://www.nrc.gov/reading-rm/adams.html. To begin the search, select "ADAMS Public Documents" and then select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. The ADAMS accession number for each document referenced (if it is available in ADAMS) is provided the first time that it is mentioned in the SUPPLEMENTARY INFORMATION section.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

FOR FURTHER INFORMATION CONTACT: Theodore Smith, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001; telephone: 301-415-6721; e-mail: Theodore.Smith@nrc.gov.

SUPPLEMENTARY INFORMATION:

The FNR was operated by the Michigan Memorial Phoenix Project (MMPP) at the UM as a memorial to students and alumni of the UM who served in World War II, including the 588 who died in the war. The MMPP's purpose has been to encourage and support research on the peaceful uses of nuclear energy and its social implications. The FNR was used by students, faculty and staff of the UM and other institutions and entities for research, experiments, and education classes. The FNR operations provided major assistance to a wide variety of research and educational programs, including neutron irradiation services, neutron beam port experimental facilities, classes in reactor operations, reactor related laboratory work, neutron activation analysis, isotope preparation, radiochemical preparation, gamma irradiation services,

neutron radiography, testing services, and training programs. The licensee ceased operation of the facility in July 2003, and the fuel was subsequently removed in December 2003. The FNR underwent decommissioning activities from 2006 until 2012, followed by Final Status Surveys (FSS) in the winter of 2012 to assess the final radiological status of the facility.

The licensee submitted a proposed Decommissioning Plan (DP) on June 23, 2004 (ADAMS Package No. ML041810586) which was revised on January 10, 2006 (ADAMS Package No. ML060180411). The NRC approved the revised UM DP by Amendment No. 50 to License R-28, dated June 26, 2006 (ADAMS Accession No. ML061220260).

As required by the FNR DP, the UM submitted a Final Status Survey Plan (FSSP), in letters dated April 8, 2011, July 12, 2011, January 20, 2012, June 1, 2012, July 13, 2012, and September 17, 2012 (ADAMS Accession Nos. ML11119A004, ML11199A009, ML12025A125, ML12157A266, ML12199A018, and ML12264A562, respectively). Additional site characterization information for the FNR was provided on February 14, 2012, and September 18, 2012 (ADAMS Package No. ML120950629 and ADAMS Accession No. ML12264A064).

By letter dated October 25, 2012 (ADAMS Accession No. ML12293A302), the NRC reviewed the FSSP and determined that after a change to one paragraph, it was acceptable and consistent with the guidance in NUREG-1757, “Consolidated Decommissioning Guidance” (ADAMS Accession No. ML063000243), and NUREG-1575, “Multi-Agency Radiation Survey and Site Investigation Manual” (MARSSIM) (ADAMS Accession No. ML082470583). The UM provided the modified FSSP with the revised paragraph on November 2, 2012 (ADAMS Accession No. ML12312A130). The modification required an additional final status survey for three special areas of the FNR.

The UM provided a final status survey report (FSSR) which included information on the three special FSS areas in a letter dated July 11, 2013 (ADAMS Package ML13205A152),

followed by a corrected background count rate for the FSSR on August 19, 2013 (ADAMS Accession No. ML13235A009).

In a letter dated February 26, 2014 (ADAMS Accession No. ML14063A207), the UM confirmed that FNR systems and components had been transferred to the UM Broad Scope license No. 21-00215-04 by Amendment No. 102, in accordance with the approved DP, and requested termination of the FNR license. The Amendment No. 102 transfer was approved by the NRC, with a correction, on February 19, 2014 (ADAMS Accession No. ML14055A189). On June 23, 2014, NRC inspectors confirmed that site conditions were acceptable for license termination (ADAMS Accession No. ML14197A232). Additionally, NRC staff has reviewed the FNR FSSR. The FNR FSSR states that the criteria for termination set forth in FNR's license (R-28), and as established in its DP and FSSP have been satisfied.

The FSSR indicates that all but one of the individual radiological measurement determinations made throughout the facility for surface contamination (both total and removable) were found to be less than the criteria established in the DP, which is acceptable in accordance with the MARSSIM statistical methodology. Similarly, sample results from soil, and sediments were found to be less than the volumetric radionuclide concentration criteria established in the DP. Additionally, all the radioactive wastes have been removed from the facility. For these reasons, the NRC staff has determined that the survey results in the report comply with the criteria in the NRC approved DP and the release criteria in subpart E of part 20 of Title 10 of the *Code of Federal Regulations* (10 CFR).

On August 9 through 11, 2011 the NRC conducted an on-site inspection of the decommissioning activities at the FNR. The NRC inspector evaluated decommissioning performance and conducted independent radiation surveys and soil sampling, with soil sample evaluation of the NRC samples by the Oak Ridge Associated Universities (ORAU). The inspection was an examination of UM's licensed activities as they relate to radiation safety and

to compliance with the Commission's regulations and the license conditions, including the DP and FSSP. The inspection consisted of observations by the inspectors, interviews with personnel, and a review of procedures and records and acquisition of split samples. As a result of this inspection, a Notice of Violation was issued to the UM for failing to independently monitor or audit either decommissioning operations or the quality assurance program annually as required (ADAMS Accession No. ML11299A076). This violation has been resolved by the UM reinitiating audits and quality assurance reviews as part of semi-annual Decommissioning Review Committee meetings, as documented in an October 10, 2012 NRC inspection report. (ADAMS Accession No. ML12284A282). The final report from ORAU of the results of the soil sample analysis was provided to the NRC on August 23, 2011 (ADAMS Accession No. ML112420852). One of the soil samples exceeded the FNR DP's soil derived concentration guideline level for Cobalt-60, which was addressed by the UM subsequently remediating all the soil from the cavity area, and resampling as part of the final status survey.

At the request of NRC staff, on January 16, 2015 (ADAMS Accession No. ML15020A725), UM provided the results of eight additional soil samples, taken to a depth of thirteen feet, in the area where stockpiled soils were reused to refill the excavation in the former storage ports area of the FNR. All samples were below minimum detectable activity and well below the soil derived concentration guideline levels, which demonstrates that the reused stockpiled soils are acceptable for unrestricted release. Additionally, three split samples were sent to ORAU for laboratory analysis (ADAMS Accession No. ML15030A311). The results contained in the analytical report are consistent with UM's report.

Pursuant to 10 CFR 50.82(b)(6), the NRC staff has concluded that the UM FNR in Ann Arbor, Michigan, has been decommissioned in accordance with the approved DP and that the FSSR and associated documentation demonstrates that the facilities and site may be released in accordance with the criteria for license termination in 10 CFR part 20, subpart E. Further, on

the basis of the decommissioning activities carried out by the UM, the NRC's review of the licensee's FSSR, the results of the NRC inspections conducted at the reactor facility, and the results of confirmatory lab analyses, the NRC has concluded that the decommissioning process is complete and the facilities and sites may be released for unrestricted use.

Therefore, Facility Operating License No. R-28 is terminated.

Dated at Rockville, Maryland, this 2nd day of April 2015.

For the Nuclear Regulatory Commission.

Andrew Persinko, Deputy Director,
Division of Decommissioning, Uranium Recovery,
and Waste Programs,
Office of Nuclear Material Safety
and Safeguards.

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